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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Michelle A. Miller et al.

Serial No.: 10/028,327

Filed: December 21, 2001

Confirmation No.: 4258

Docket No.: TI-32679

Art Unit: 2174

Examiner: Peng Ke

Date: September 2, 2005

For: CALCULATING IN SPREADSHEET CELLS WITHOUT USING
FORMULAS

Assistant Commissioner for
Patents

Washington, D.C. 20231

MAILING CERTIFICATE UNDER 37 C.F.R. §1.8(A)

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22313-1450.


Ann Trent

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

Dear Sir:

Further to the Notice of Appeal mailed on May 27, 2005, and in response to the Notification of Non-Compliant Appeal Brief dated August 26, 2005, this is Appellant's Appeal Brief.

Real Party in Interest under 36 C.F.R. § 41.37 (c)(1)(i)

The real party in interest in this application is Texas Instruments Incorporated, a corporation of the State of Delaware.

Related Appeals and Interferences under 36 C.F.R. § 41.37 (c)(1)(ii)

There are none.

Status of Claims:

Claims 1 - 12, all of the claims in the case, all stand rejected.

The claims on appeal are Claims 1 - 12.

Status of Amendments:

An "Amendment Pursuant to 37 C.F.R. § 1.116" was filed on March 29, 2005. There were no specific amendments made in this document, and it was deemed by the Examiner to not place the Application in condition for allowance.

Summary of Claimed Subject Matter:

The invention is an improvement to handheld calculators having spreadsheet capability. It provides a user interface including a spreadsheet having cells in rows and columns, and a cursor which indicates a selected cell. The invention also provides a cell edit line which allows the user to enter a mathematical expression with a sequence of entries, wherein the interface stores the results of the mathematical expression for display in the selected cell, but does not store the mathematical expression. The results are displayed in the cell.

The invention allows a user to make calculations within a cell and have the results stored in the cell, rather than the formula used to calculate those results. It was discovered that in many cases a user may not want or need to store the formula or calculations leading to a result in a spreadsheet cell. For

example, in the classroom situation, where handheld calculators enjoy widespread use, the teacher may want to hide a calculation or formula that produced a cell entry result. Another advantage of the invention is that it reduces the calculation time to regenerate a spreadsheet display, and the memory needed to store the spreadsheet.

In the paragraphs that follow in this section, in which a concise explanation of the subject matter defined in each of the independent claims involved in the appeal is provided, bold numbers are reference characters for elements in the Drawings, while page and line numbers refer to the Specification.

Independent Claim 1 recites a user interface for a spreadsheet computer program. The interface includes: (1) a spreadsheet display having rows and columns of cells (screen **11**, page 4, lines 12-13, on which screen display **100** is shown, page 5, lines 7-13); (2) a cursor operable by a user input which indicates at least one currently selected cell (page 5, lines 23-25); and (3) a cell edit line which allows the user to enter a mathematical expression with a sequence of entries (**110**, page 5, lines 16-19 & lines 25-26), wherein the user interface stores the results of the mathematical expression for display in the selected cell but does not store the mathematical expression, and displays the results in the cell (page 6, lines 9-14).

Independent Claim 5 recites a handheld computing device. The computing device includes: (1) a screen capable of displaying spreadsheet rows and columns for a spreadsheet application (screen **11**, page 4, lines 12-13, on which screen display **100** is shown, page 5, lines 7-13); (2) an input device for operating the computing device and entering user responses (keypad **12**, page 4, lines 17-18); and (3) a processor for executing programming that provides a user interface to the spreadsheet application (processor **13**, page 4, lines 18-19). The user interface includes: (a) a cursor operable by user input through the input device, wherein the cursor indicates at least one currently selected cell (page 5, lines 23-25); and (b) a cell edit line which allows the user to enter a

mathematical expression with a sequence of entries (110, page 5, lines 16-19 & lines 25-26), wherein the user interface stores the results of the mathematical expression for display in the selected cell, but does not store the mathematical expression, and displays the results in the cell (page 6, lines 9-14).

Independent Claim 9 recites a graphing calculator. The graphing calculator includes (1) a screen capable of displaying spreadsheet rows and columns for a spreadsheet application (screen 11, page 4, lines 12-13, on which screen display 100 is shown, page 5, lines 7-13); (2) an input device for operating the computing device and entering user responses (keypad 12, page 4, lines 17-18); (3) a processor for executing programming that provides a user interface to the spreadsheet application wherein the user interface further comprises (processor 13, page 4, lines 18-19); (4) a cursor operable by user input through the input device, wherein the cursor indicates at least one currently selected cell (page 5, lines 23-25); and (5) a cell edit line which allows the user to enter a mathematical expression with a sequence of entries (110, page 5, lines 16-19 & lines 25-26), wherein the programming stores the results of the mathematical expression for display in the selected cell, but does not store the mathematical expression, and displays the result in the cell (page 6, lines 9-14).

Grounds of Rejection to be Reviewed On Appeal:

Ground I. Whether Claims 1, 5 and 9 are patentable under 35 U.S.C. § 103(a) over Salas et al. in view of Corner et al.

Ground II. Whether Claims 2-4, 6-8 and 10-12 are patentable under 35 U.S.C. § 103(a) over Salas et al. in view of Corner et al. and in view of Spencer et al.

Argument:

Ground I. Representative (and independent) Claim 1 recites an interface including a spreadsheet display having rows and columns of cells, a cursor operable by a user input which indicates at least one currently selected cell, and “a cell edit line which allows the user to enter a mathematical expression with a sequence of entries, wherein the user interface stores the results of the mathematical expression for display in the selected cell but does not store the mathematical expression, and displays the results in the cell.” Independent Claim 5 includes similar limitations, as does independent Claim 9. The benefits of this are described above in the Summary of Claimed Subject Matter.

The patent to Salas et al. apparently relates to a spreadsheet apparatus. However, it neither teaches nor suggests “a cell edit line which allows the user to enter a mathematical expression with a sequence of entries, wherein the user interface stores the results of the mathematical expression for display in the selected cell but does not store the mathematical expression, and displays the results in the cell.” In fact, it fails to even suggest *not* storing a mathematical expression used to calculate a result to be displayed in a spreadsheet cell. The mathematical expression, if entered, is always stored (see Salas et al., column 17, line 48, through column 18, line 43).

The patent to Comer et al. apparently relates to a computerized spreadsheet. Like the patent to Salas et al., it neither teaches nor suggests “a cell edit line which allows the user to enter a mathematical expression with a sequence of entries, wherein the user interface stores the results of the mathematical expression for display in the selected cell but does not store the mathematical expression, and displays the results in the cell.” In Comer et al. the user selects some of the cells of a spreadsheet, establishing a focus frame, for example using a mouse, and when the mouse button is released the auto-calculator module performs a preset function, such as addition, on the contents

of the selected cells. (See., e.g., column 6, lines 16-30.) The results of that intermediate operation are displayed in a “results pane” that is separate from the spreadsheet, in their embodiment of their Figure 3, for example, at the bottom of their screen at 62. In the performance of this auto-calculator intermediate function no formula is entered into any of the selected cells, i.e., with no embedded formula, which they say relieves the user of the need of remembering where such an intermediate formula is, for example if the user no longer needs the function and later wishes to erase it. Since it is not in the spreadsheet, it need not be erased.

By contrast, in Claims 1, 5 and 9 a user enters a mathematical expression, and the user interface stores the results of the mathematical expression *for display in the selected cell but does not store the mathematical expression*, and displays the results in the cell. Comer et al. teaches away from this. In Comer et al. the results are not stored for display in the selected cell (or cells), but, rather, for display in their results pane, outside of their spreadsheet. In addition, their mathematical expression is stored; it is just not stored “in” the cell, i.e., it is not embedded. Rather, it is stored as part of the auto-calculator module, separate from their spreadsheet. In the claims in issue, the results are displayed in the spreadsheet cell, but the mathematical expression producing that spreadsheet cell entry is not stored at all.

These are very different functions that produce very different display results and very different consequences. Recall that the motivations mentioned above for the present invention are that, first, in the classroom situation, where handheld calculators enjoy widespread use, the teacher may want to hide a calculation of formula that produced a cell entry result, second, to reduce the calculation time to regenerate a spreadsheet display, and third, to reduce the memory needed to store the spreadsheet. None of these is achieved by the scheme of Comer et al. First, if, as in Comer et al., the mathematical expression is stored in a known place to relieve the user of the need of remembering where

such an intermediate formula is, for example if the user no longer needs the function and later wishes to erase it, the mathematical expression is not really hidden, as a teacher may wish. If the mathematical expression is not stored at all, it is truly hidden from the student. Second, the scheme of Comer et al. has nothing to do with regeneration of a spreadsheet display, since the auto-calculator is explicitly not part of their spreadsheet. That's the whole point of it. Third, memory usage is not reduced with the scheme of Comer et al. It is increased, both for their auto-calculator program functionality, and for the storage of the mathematical expression being executed when their auto-calculator program is invoked.

Thus, Claims 1, 5 and 9 are neither anticipated nor rendered obvious by either Salas et al. or Comer et al., either considered individually or in combination, and therefore it is respectfully submitted that these claims are allowable.

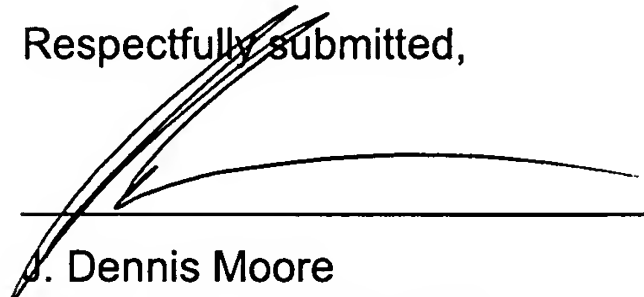
Ground II. Claims 2-4, 6-8 and 10-12 all depend, either directly or indirectly from Claim 1, Claim 5 or Claim 9. The reasons for the allowability of Claims 1, 5 and 9 over Salas et al. and Comer et al. are set forth above under Ground I. The patent to Spencer et al. fails to cure the deficiencies of Salas et al. and Comer et al. The patent to Spencer et al. apparently relates to a method for composing formulas in an electronic spreadsheet system, and is even less relevant to the Claim limitations discussed above than Salas et al. and Comer et al. It was cited for allegedly disclosing that where an entry is preceded by a symbol, such as "+" or "=", it is stored as an expression or formula and the result displayed in the cell, conventional prior art spreadsheet functionality.

Thus, Claims 2-4, 6-8 and 10-12 are neither anticipated nor rendered obvious by Salas et al. or Comer et al. or Spencer et al., whether considered individually or in combination, and therefore it is respectfully submitted that these claims are allowable.

Relief Sought:

Applicants respectfully request that the rejection of Claims 1, 5 and 9, and the rejection of Claims 2-4, 6-8 and 10-12, both be reversed, and that all of these claims, Claims 1 - 12, be allowed.

Respectfully submitted,



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Appendix 1
(Copy of Claims involved in the Appeal)

1 Claim 1. A user interface for a spreadsheet computer program comprising:
2 a spreadsheet display having rows and columns of cells;
3 a cursor operable by a user input which indicates at least one currently
4 selected cell; and
5 a cell edit line which allows the user to enter a mathematical expression
6 with a sequence of entries, wherein the user interface stores the results of the
7 mathematical expression for display in the selected cell but does not store the
8 mathematical expression, and displays the results in the cell.

1 Claim 2. The user interface of Claim 1, wherein an entry preceded with a "+"
2 or "=" sign is stored as an expression or formula and the result displayed in the
3 cell.

1 Claim 3. The user interface of Claim 2, wherein an entry preceded with a
2 special symbol is stored as text and the text displayed in the cell.

1 Claim 4. The user interface of Claim 3, wherein the special symbol is
2 selected from the following: a quotation mark, and space.

1 Claim 5. A handheld computing device comprising:
2 a screen capable of displaying spreadsheet rows and columns for a
3 spreadsheet application;
4 an input device for operating the computing device and entering user
5 responses;
6 a processor for executing programming that provides a user interface to
7 the spreadsheet application wherein the user interface further comprises:
8 a cursor operable by user input through the input device, wherein the
9 cursor indicates at least one currently selected cell; and
10 a cell edit line which allows the user to enter a mathematical expression
11 with a sequence of entries, wherein the user interface stores the results of the
12 mathematical expression for display in the selected cell, but does not store the
13 mathematical expression, and displays the results in the cell.

1 Claim 6. The handheld computing device of Claim 5, wherein an entry
2 preceded with a "+" or "=" sign is stored as an expression or formula and the
3 result displayed in the cell.

1 Claim 7. The handheld computing device of Claim 5, wherein an entry
2 preceded with a special symbol is stored as text and the text displayed in the
3 cell.

1 Claim 8. The handheld computing device of Claim 7, wherein the special
2 symbol is selected from the following: a quotation mark, and space.

1 Claim 9. A graphing calculator comprising:

2 a screen capable of displaying spreadsheet rows and columns for a
3 spreadsheet application;

4 an input device for operating the computing device and entering user
5 responses;

6 a processor for executing programming that provides a user interface to
7 the spreadsheet application wherein the user interface further comprises:

8 a cursor operable by user input through the input device, wherein the
9 cursor indicates at least one currently selected cell; and

10 a cell edit line which allows the user to enter a mathematical expression
11 with a sequence of entries, wherein the programming stores the results of the
12 mathematical expression for display in the selected cell, but does not store the
13 mathematical expression, and displays the result in the cell.

1 Claim 10. The device of Claim 9, wherein an entry preceded with a "+" or "="
2 sign is stored as an expression or formula and the result displayed in the cell.

1 Claim 11. The device of Claim 9, wherein an entry preceded with a special
2 symbol is stored as text and the text displayed in the cell.

1 Claim 12. The device of Claim 11, wherein the special symbol is selected
2 from the following: a quotation mark, and space.